

CLAIMS

What is claimed is:

1           1.       A scan window apparatus for defining and identifying a selected scan  
2 window within an overall scanable surface of a scanning device, the scanable surface  
3 being defined by a first edge and a second edge which intersects the first edge, the scan  
4 window apparatus comprising:

5               a scan window definition device to allow a user to define the selected scan  
6 window on the scanable surface; and

7               a scan window illumination device configured to illuminate the selected scan  
8 window.

1           2.       The scan window apparatus of claim 1, and wherein the scanable surface  
2 comprises an essentially transparent platen defined by a first side on which an object  
3 to be scanned can be placed, and an opposite second side, and wherein the scan  
4 window illumination device comprises a light source positioned to direct light to the  
5 second side of the platen.

1           3.       The scan window apparatus of claim 2, and wherein the light source  
2 comprises a stationary light source.

1           4.       The scan window apparatus of claim 3, and further comprising a light  
2 diffuser positioned between the stationary light source and the second side of the platen.

1           5.       The scan window apparatus of claim 2, and wherein the scanning device  
2 comprises a moveable scanning light positioned proximate the second side of the  
3 platen, and further wherein the light source comprises the scanning light.

1           6.       The scan window apparatus of claim 5, and further comprising a light  
2 diffuser positioned between the scanning light and the second side of the platen.

1           7.     The scan window apparatus of claim 1, and wherein:  
2           the scan window definition device comprises a plurality of moveable position  
3 markers configured to move along the first and second edges of the scanable surface  
4 and thereby define the selected scan window;  
5           the scanable surface is a transparent platen defined by a top and a bottom  
6 surface and by the first and second edges;  
7           the scan window illumination device comprises a light source located in each of  
8 the position markers; and  
9           the light sources are located proximate to the edges of the platen to allow light  
10 from the light sources to shine into the platen between the top and bottom surfaces  
11 thereof.

1           8.     The scan window apparatus of claim 7, and further wherein the  
2 transparent platen is impregnated with light reflective particles oriented to reflect light  
3 from the light sources, but to allow light to freely pass through the platen from the  
4 bottom surface to the top surface.

1           9.     The scan window apparatus of claim 1, and wherein the selected scan  
2 window is defined by a scan window perimeter, and further wherein the scan window  
3 illumination device comprises a focused light source configured to generate a focused  
4 beam of light which is configured to be directed to trace at least part of the scan window  
5 perimeter.

1           10.    The scan window apparatus of claim 9, and further wherein the scan  
2 window definition device comprises a plurality of moveable position markers configured  
3 to move along the first and second edges of the scanable surface and thereby define  
4 the selected scan window, the apparatus further comprising a plurality of position  
5 detectors configured to detect the positions of the plurality of position markers along the  
6 first and second edges of the scanable surface and to generate position signals in  
7 response thereto, and further wherein the apparatus is configured to use at least one  
8 of the position signals to direct the focused beam of light.

1           11.    The scan window apparatus of claim 9, and further comprising an  
2 oscillating mirror, and further wherein the focused beam of light is generated by a laser  
3 and is directed to trace at least a part of the scan window perimeter by the oscillating  
4 mirror.

1           12.    The scan window apparatus of claim 9, and further comprising a rotating  
2 polygonal-sided mirror, and further wherein the focused beam of light is generated by  
3 a laser and is directed to trace at least a part of the scan window perimeter by the  
4 rotating polygonal-sided mirror.

1           13.    An optical scanning device comprising:  
2           a platen defining a scanable surface, the platen comprising an essentially  
3 transparent surface defined by an upper side and a lower side, the scanable surface  
4 being defined by a first edge and a second edge orthogonal to the first edge;  
5           a scanning light source configured to optically scan an object placed proximate  
6 the upper side of the platen, the scanning light source being located proximate the lower  
7 side of the platen;  
8           a scan window definition device to allow a user to define a selected scan window  
9 on the platen to be scanned by the scanning light source; and  
10          a scan window illumination device configured to illuminate the selected scan  
11 window.

1           14.    The optical scanning device of claim 13, and wherein the selected scan  
2 window is defined by a scan window perimeter, and further wherein the scan window  
3 illumination device comprises a focused light source configured to generate a focused  
4 beam of light which is configured to be directed to trace at least part of the scan window  
5 perimeter.

1           15.    The optical scanning device of claim 14, and wherein the scan window  
2 definition device is used to direct the focused beam of light.

1           16.    The optical scanning device of claim 14, and further wherein the optical  
2 scanning device further comprises a back-lighting light source positioned to direct light  
3 to the lower side of the platen.

1           17.    The optical scanning device of claim 15, and wherein the scan window  
2 definition device comprises a plurality of moveable position markers configured to move  
3 along the first and second edges of the scanable surface and thereby define the  
4 selected scan window.

1           18.    The optical scanning device of claim 15, and wherein the scan window  
2 definition device comprises a user interface allowing a user to identify positions along  
3 the first and second edges of the scanable surface to thereby define the selected scan  
4 window.

1           19.    The optical scanning device of claim 15, and further comprising an  
2 oscillating mirror, and further wherein the focused beam of light is generated by a laser  
3 and is directed to trace at least a part of the scan window perimeter by the oscillating  
4 mirror.

1           20.    The optical scanning device of claim 15, and further comprising a rotating  
2 polygonal-sided mirror, and further wherein the focused source of light comprises a  
3 laser, and further wherein the focused beam of light is directed to trace at least a part  
4 of the scan window perimeter by the rotating polygonal-sided mirror.

1           21.    A method of identifying a selected scan window to be scanned as part of  
2 an overall scanable surface, comprising:  
3           defining the selected scan window; and  
4           illuminating the scan window prior to scanning the selected scan window to  
5 thereby identify the selected scan window.

1           22.    The method of claim 21, and wherein illuminating the scan window  
2 comprises shining a light towards the overall scanable surface.

1           23.    The method of claim 22, and further comprising diffusing the light before  
2    shining the light towards the overall scanable surface.

1           24.    The method of claim 21, and wherein the selected scan window is defined  
2    by a perimeter, and further wherein illuminating the scan window comprises tracing at  
3    least a portion of the selected scan window perimeter on the overall scanable surface  
4    using at least one directed, focused beam of light.

1           25.    The method of claim 24, and further comprising illuminating the scan  
2    window by shining diffused light towards the overall scanable surface.

1           26.    The method of claim 24, and further comprising generating at least two  
2    signals to thereby define the traced portion of the selected scan window perimeter, and  
3    using the signals to direct the focused beam of light.

1           27.    The method of claim 21, and further comprising scanning only the  
2    selected scan window on the scanable surface.

1           28.    An imaging device comprising:  
2           a platen defining a scanable surface, the platen comprising an essentially  
3    transparent surface defined by an upper side and a lower side;  
4           a scanning light source configured to optically scan an object placed proximate  
5    the upper side of the platen, the scanning light source being located proximate the lower  
6    side of the platen; and  
7           an illumination device configured to direct light to the lower side of the platen.

1           29.    The imaging device of claim 28, and wherein the light source comprises  
2    a stationary light source.

3           30.    The imaging device of claim 28, and further comprising a light diffuser  
4    positioned between the illumination device and the second side of the platen.

1           31.    An imaging device, comprising:  
2           a platen defining a scanable surface, the platen comprising an essentially  
3 transparent surface defined by an upper side and a lower side;  
4           a moveable scanning light source located proximate the lower side of the platen  
5 and configured to move across at least a portion of the lower side of the platen to  
6 thereby optically scan an object placed proximate the upper side of the platen;  
7           a moveable light diffuser configured to be deployed in a first position between the  
8 moveable scanning light source and the lower side of the platen, and a second position  
9 wherein the light diffuser is not located between the moveable scanning light source and  
10 the lower side of the platen.